

CRYSTAL-FACE Hurricane Evacuation Procedures

The following are guidelines that should be followed in the event that a hurricane is predicted to make landfall in any of the CRYSTAL-FACE operational areas. Since the majority of participants will be located on a military installation, the actions taken will be governed by the specific hurricane condition that base has announced. These conditions are normally posted at the base security gates. The project office will also post the latest condition in the CRYSTAL-FACE hangar/ lab area and on the deployment site message phone at Key West NAF.

Hurricane Conditions of Readiness

The Navy will indicate the hurricane's estimated time of impact by announcing a "Condition" of readiness alert. Five separate hurricane conditions are used to provide orderly and thorough preparations to minimize the effects on personnel and property. Progress through these conditions of readiness may not be as expected, since the storm system may change course or acceleration rapidly. It is possible to go directly from Condition Three to Condition One, while ensuring all precautionary measures are executed as quickly as possible. These storm conditions of readiness are issued by the base Commanding Officer (CO) and are not to be questioned.

DOD Tropical Storm / Hurricane Forecast Warning Conditions:

Condition 5 – Normal condition of readiness set during the annual hurricane season (Jun 1 – Nov 30).

Condition 4 – Destructive force winds (> 50 knots) are possible within 72 hours.

Condition 3 – Destructive winds expected within 48 hours.

Condition 2 – Destructive winds expected within 24 hours.

Condition 1 – Imminent threat of destructive winds expected within 12 hours.

Equivalent Civilian Forecast Terminology:

Tropical Storm / Hurricane Watch – Storm conditions are possible within 36 hours.

Tropical Storm / Hurricane Warning – Storm conditions are expected within 24 hours.

Public Evacuation Order Issued – Issued between 12 – 22 hours prior to landfall.

Saffir Simpson Hurricane Rating Scale:

Category 1 – Winds of 74-95mph; Storm surge 4'-5' above normal.

Category 2 – Winds of 96-110 mph; Storm surge 6'-8' above normal.

Category 3 – Winds of 111-130 mph; Storm surge 9'-12' above normal.

Category 4 – Winds of 131-155 mph; Storm surge 13'-18' above normal.

Category 5 – Winds greater than 155 mph; Storm surge higher than 18' above normal.

General Evacuation Information:

When an evacuation order is given, it must be taken very seriously, and you should proceed without hesitation. Decision-making criteria for an evacuation include size of storm, anticipated path of storm, anticipated storm surge, number of citizens affected, and mobilization times. Yet, having said that, many Florida residents still have spent several hours on congested highways or searching for available shelters. During Hurricane Floyd 1.2 million people were told to evacuate, but actually over 2 million did, which only compounded the difficulty of the evacuation. The larger the storm, the greater the probability of traffic jams where extended travel time will be needed. Specific evacuation routes are given for locations throughout Florida depending on the location of the storm. It is very important that you review your particular evacuation route prior to the actual evacuation. It is recommended that you not vary from these routes no matter what the traffic may be like. Highway on and off ramps can be closed, as patrols may reverse lanes on all incoming traffic to accommodate the massive exodus. Other smaller roads may already be experiencing flooding or have unadvertised construction occurring on them that will stop you from using them.

Key West has only one road off the island and back to the mainland. This road is the evacuation road, and early hurricane warnings need to be taken seriously. This road will be congested and is subject to high winds and storm surge. Carpooling is suggested. Once on the mainland you should move as far inland as possible away from the storm's expected path. Florida Emergency Management asks that you travel north on the opposite side of the state from the storm. Therefore, if the storm comes from the east / southeast / south, you take Interstate-75, Highway 17, or Highway 27. If from the west / southwest take Highway 27, Highway 17, or Interstate-95.

An evacuation is a slow, frustrating, time consuming experience. Evacuees should exercise extreme caution in traffic. You do not want to lose your only means of transportation. Remember these important points, while evacuating:

- Be prepared to leave early.
- Select and confirm your destination before leaving.
- Select your primary and alternate evacuation routes prior to leaving.
- Take detailed maps of areas around your destination and along your evacuation route.
- Monitor local media for important information from Emergency Management.
- Fill your Car's fuel tank, first.
- Check all fluid levels in your car.
- Check your spare tire and tire changing equipment.
- Take an adequate supply of food and water.
- Have sufficient cash to meet your needs.

Try to be aware of people in your group and take into account their whereabouts. Choose a meeting location and account for everyone in your group.

If at all possible, it is recommended that you stay with friends or family outside the danger zone area. Hotels outside the danger area are another option. In choosing your destination, keep in mind that the hotels and other sheltering options in most inland metropolitan areas are likely to be filled very quickly in a hurricane evacuation event. Evacuation shelters are located throughout the state, however these can fill fast. Not all shelters open as planned and additional shelters may open as needed. Local media will announce shelters or you may call the Red Cross at (305) 296-3651 for additional information.

Key West Island Shelters

Crystal-Face participants must leave the Florida Keys when told to do so. There are only two shelters available - The Harvey Government Center, for persons with special needs, and Glynn Archer Elementary School for the Key West public. These are not intended for tourists and large groups of visitors like ourselves; we are only providing this information for unforeseen emergencies.

Glynn R. Archer Elementary School

1302 White Street

Key West, Florida 33040 Phone # 305.293.1600

- Key West shelter spaces are available only for Category 1 and 2 Hurricanes.
- No shelters in Monroe County will be safe in the most deadly Hurricanes - Category 3, 4 and 5. Shelters will not be open during these most dangerous Hurricanes. Upon the Governor's order, **PEOPLE MUST EVACUATE** to the mainland. Be prepared to evacuate.

Shelters are exactly that, just a shelter; the only amenities you will have are those you bring with you. For that reason, the following list may assist in your planning:

Shelter Supply Items:

Supply of Water (One gallon per person per day)
Supply of Non-Perishable or canned food
Utensils (Can Opener, disposable plates, cups, forks, knives)
Change of clothing (including rain gear)
Hygiene items (soap, toothbrush, wash cloth, towel)
Blankets or sleeping bags
First aid kit (including prescription drugs / aspirin)
Battery power radio, flashlight, batteries
Credit cards and cash
Books, cards, games

CRYSTAL-FACE evacuation details:

Should Key West NAF give the order to evacuate the base; all personal will leave the island and seek refuge on mainland Florida and not return until officially approved to do so. At that time, we will be required to evacuate the aircraft and personnel immediately from the base. People may be required to evacuate as early as 72 hours prior to hurricane landfall.

Many of the actions that will take place during a CRYSTAL-FACE evacuation will be decisions that will be made in real-time. Where we evacuate, and when or if we return, will depend on the size of the storm, direction of the storm, remaining time in the campaign, and severity of damage to the area after a landfall, among other criteria. In the event an evacuation is called, our first priority will be to get the aircraft out. Depending on circumstances (eg. time of day), we may not be able to contact instrument investigators who are not on location prior to the aircraft leaving. Although we cannot wait for the arrival of investigators to launch the aircraft, PI's will be notified (regardless of time of day) as soon as time permits. The ER-2 is currently planning to evacuate to Warner Robins AFB, in Georgia. The WB-57 is planning to evacuate back to Ellington AFB, in Houston. The Proteus, P-3, Twin Otter, and Citation have fewer restrictions and will determine the evacuation site depending on the storm size and path details.

On Board Science Instruments

Should any instrument that require care and or maintenance in order to keep it alive and well (before, during, and after an evacuation), please contact your respective aircraft Mission Manager and keep them apprised of your needs and concerns.

Below are some suggested items that should be followed for a successful evacuation. They are listed in order of conditions of readiness for step-by-step planning.

Condition 5 (Normal Condition)

Operations as normal
Read this document!
Review your evacuation route
Decide on evacuation plans / destination
Archive / Backup instrument data regularly
Organize evacuation carpools
Obtain prescriptions as needed

Condition 4 (72 hours)

Pack all equipment
Fill gas tank in car
Pack personal items
Withdraw cash
Checkout from hotel
Leave Florida Keys ASAP

Condition 3 (48 hours)

Mandatory Evacuation
Aircraft Departs

At any time, between 72 and 48 hours prior to predicted landfall the base will close to all personnel. Equipment (that should be packed) will be stored in one of the safer rooms of the hangar. If the equipment is not packed, you should not assume that we would pack it for you; we may be forced to only place tarps over it where it will stay.

Those that carpool should drop off extra cars at the Key West airport on the way out. As long as possible, daily communication between the evacuation site and Key West NAF will be maintained. When and if conditions allow, we will return to Key West NAF as soon as permitted.

Those CRYSTAL-FACE participants in the Florida Keys should be aware of additional concerns they have with evacuations. Large vehicles will be asked to evacuate first and foremost, as early as 96 hours or more prior to estimated landfall. Again, the evacuation announcement will include a safe transit time. However, if you are trying to reach a northern location for landfall, you will now compete with 100s to 1000s of RVs. You should be well aware of the storm and evacuate early. Officials will often close the northbound highway around 4 p.m. as a safety precaution for motorists due to possibility of high winds and heavy rain on the small road and bridges. For up-to-date storm information on the Keys, you may call the Key West weather office at (305) 293-2306. We strongly recommend that Key West personnel have on hand a small hand-held Weather Radio that can be purchased for about \$9.99.

Up-to-date Emergency & Weather Related Information.

Local Radio

Cable Television, Channel 5/Channel 16/Channel 19 throughout the Keys

NOAA Weather Radio: **Upper Keys:** 162.55 Mhz **Lower Keys:** 162.40 Mhz

Ground Sites

Ground sites will follow the same procedures as those in Key West. All personnel should be equipped with emergency necessities, (shelter supply items), as listed above. If evacuation is imminent, move away from the vicinity of the coast and obey local government evacuation procedures to safer shelter. Safety and survival is paramount.



Your safety and well-being are of utmost importance. All Individuals should have their own plan including details that coordinate with others on the CRYSTAL-FACE team. We will be well aware of the hurricane's existence, size, and location and should have no excuses for not having a well executed plan. Compared to the warning time we get in California for Earthquakes, we have an eternity with Hurricanes. Please use the time wisely!